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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/814,286 | 04/01/2004 | Heung-Jae Im | 123059-05004364 | 6121 |
| 22429 | 7590 | 05/14/2007 | | |
| LOWE HAUPTMAN BERNER, LLP | | | EXAMINER | |
| 1700 DIAGONAL ROAD | | | BAYARD, EMMANUEL | |
| SUITE 300 | | | | |
| ALEXANDRIA, VA 22314 | | | ART UNIT | PAPER NUMBER |
| | | | 2611 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------------------|-------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/814,286 | IM, HEUNG-JAE | |
| | Examiner Emmanuel Bayard | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 April 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-28 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Objections

1. Claim 17 is objected to because of the following informalities: in last line after means replace ";" with ---. Appropriate correction is required.
2. Claim 22 is objected to because of the following informalities: in last line after means replace ".." with ---. Appropriate correction is required.
3. Claim 22-23 is objected to because of the following informalities: in line 1 before comprises replace "the finger" with --- each finger ---. Appropriate correction is required.
4. Claim 23 is objected to because of the following informalities: in line 1 before further replace "the finger" with --- each finger ---. Appropriate correction is required.
5. Claims 26 and 28 are objected to because of the following informalities: in line 6 after use, "it" is recited. It is unclear as to what the applicant is referring to. Therefore applicant is suggested to replace the claimed subject matter "it" by its proper meaning . Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
8. Claim 1 recites the limitation "the base-band received signal" in line 11. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 14 recites the limitation "the X vector" in line 2. There is insufficient antecedent basis for this limitation in the claim.
10. Claim 16 recites the limitation "the array output" in line 2. There is insufficient antecedent basis for this limitation in the claim.
11. Claim 18 recites the limitation "the array output" in line 3. There is insufficient antecedent basis for this limitation in the claim.
12. Claim 20 recites the limitation "the tracking means" in line 1. There is insufficient antecedent basis for this limitation in the claim.
13. Claim 20 recites the limitation "the early and late des" in line 8. There is insufficient antecedent basis for this limitation in the claim.
14. Claim 21 recites the limitation "the correlation energy" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.
15. Claim 21 recites the limitation "the PN-code" in line 8. There is insufficient antecedent basis for this limitation in the claim.
16. Claim 21 recites the limitation "the pilot channel" in line 9. There is insufficient antecedent basis for this limitation in the claim.
17. Regarding claim 21, the phrase "such as" in line 11 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
18. Claim 21 recites the limitation "the frame reset, the frame timing, the frame death" in line 11. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 21 recites the limitation "the traffic channel" in line 13. There is insufficient antecedent basis for this limitation in the claim.
20. Claim 21 recites the limitation "the weights" in line 14. There is insufficient antecedent basis for this limitation in the claim.
21. Claim 21 recites the limitation "the received data" in line 14. There is insufficient antecedent basis for this limitation in the claim.
22. Claim 21 recites the limitation "the reverse link" in line 15. There is insufficient antecedent basis for this limitation in the claim.
23. Claim 22 recites the limitation "the array output" in line 8. There is insufficient antecedent basis for this limitation in the claim.
24. Claim 22 recites the limitation "the pilot weighting means" in lines 16-17. There is insufficient antecedent basis for this limitation in the claim.
25. Claim 23 recites the limitation "the frame tracking information" in line 2. There is insufficient antecedent basis for this limitation in the claim.
26. Claim 23 recites the limitation "the early and late descrambling" in line 4. There is insufficient antecedent basis for this limitation in the claim.
27. Claim 23 recites the limitation "the first and second synch time information" in line 5. There is insufficient antecedent basis for this limitation in the claim.
28. Claim 26 recites the limitation "the pilot signal" in line 5. There is insufficient antecedent basis for this limitation in the claim.
29. Claim 26 recites the limitation "the weight vector" in line 6. There is insufficient antecedent basis for this limitation in the claim.

30. Claim 26 recites the limitation "the array output" in line 9. There is insufficient antecedent basis for this limitation in the claim.

31. Claim 26 recites the limitation "the traffic channels" in line 14. There is insufficient antecedent basis for this limitation in the claim.

32. Claim 26 recites the limitation "the general weighting step" in line 15. There is insufficient antecedent basis for this limitation in the claim.

33. Claim 26 recites the limitation "the phase distortion" in line 16. There is insufficient antecedent basis for this limitation in the claim.

34. Claim 28 recites the limitation "the array output" in line 9 . There is insufficient antecedent basis for this limitation in the claim.

35. Claim 28 recites the limitation "the traffic channels" in 14. There is insufficient antecedent basis for this limitation in the claim.

36. Claim 28 recites the limitation "the general weighting step" in line 15. There is insufficient antecedent basis for this limitation in the claim.

37. Claim 28 recites the limitation "the phase distortion" in line 16. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

38. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

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F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

39. Claims 1-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 10/814,223. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the current application encompass the claims in the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

40. Claims 1-28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-27 of copending Application No. 10/814,285. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the current application encompass the claims in the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

41. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iwamatsu U.S. Patent No 6,683,906 B1 teaches a radio communication apparatus.

Levin et al U.S. Patent No 6,201,827 B1 teaches a system and method for probability based lock detection.

Levin et al U.S. patent No 6,130,923 teaches lock detection for multi-path wireless receiver

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

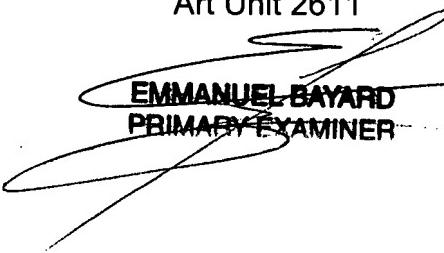
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571 272 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5/7/2007

Emmanuel Bayard
Primary Examiner
Art Unit 2611


EMMANUEL BAYARD
PRIMARY EXAMINER